Migration Monitoring at TTPBRS

2014

Chimney swift (C. England)

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For
Toronto and Region Conservation
Restoration Services

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TTPBRS
Tommy Thompson Park
BIRD RESEARCH STATION

Toronto and Region
Conservation
for The Living City

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A few from the 2014 season

ASY male Orchard oriole

Grasshopper sparrow

Merlin

Green heron

TTPBRS continued three projects from the 2013 season, including the Northern saw-whet owl monitoring.

The owl monitoring, operating under the Project Owlnet Protocol was restarted after a three year gap.

With the construction of a new berm, isolating embayment D from the inner bay, it has opened up the opportunity to concentrate some effort on monitoring a few other species that either move through, or include the site as a stop-over feeding area.

Shorebirds do not frequent our standard banding site, so other than an occasional Spotted sandpiper or American woodcock, this family of birds is not well covered in our monitoring efforts.

This is a group of birds that is well studies by many International research groups. A large, extensive data base is being established. These birds are monitored on their breeding grounds in the high arctic, during migration at major stopover sites, and again on the wintering grounds where they concentrate in huge numbers.

With the operation of a full time Migration Monitoring station, man-power for other side projects is limited by the coverage with qualified personnel. Fortunately for us during the spring and fall seasons, when the shorebirds were present, our main station was either slow or well covered by qualified personnel. This enabled a good effort for the project.

We operated the same as 2013 using 2-3 two shelf monofilament nets, with play-back. This proved to be very effective. The birds were concentrating on the shoreline of the berm, so we “walked” them into the nets instead of the shorebirds flying full speed into them. We do not have high numbers, so we have caught and banded most of the birds that respond.

Most species were seen during the season, and a few were not banded. We had Ruddy turnstone, American Golden and Black-bellied plover, Stilt, Baird’s, White-rumped sandpiper and Wilson’s snipe that were recorded but not banded.

A proposal is in the works for colour flagging these shorebirds at TTP.

Eight shorebird species were banded. Below is the list of totals.

SHOREBIRD TOTALS 2014

Least sandpiper	50
Semi-palmated sandpiper	31
Spotted sandpiper	29
Lesser yellowlegs	4
Greater yellowlegs	2
Killdeer	13
Semi-palmated plover	4
American woodcock*	5
TOTAL	128

* The AMWO were banded at Migration Monitoring site.

Greater yellowlegs

Lesser yellowlegs

We will continue with this project in 2015. It will be interesting to see how the new site is used as vegetation starts to grow, and it becomes an established feature to the peninsula.

Introduction

The Tommy Thompson Park Bird Research Station (TTPBRS) was established in April of 2003 and is run by the Toronto and Region Conservation Authority (TRCA). The primary objectives of TTPBRS are to aid conservation efforts at the local, national and international level through monitoring, research and education. The core focus of the TTPBRS is the Migration Monitoring Program. This report details results of the 2013 spring and fall seasons at TTPBRS.

Study Site

Tommy Thompson Park (TTP) is located on the Leslie Street Spit, a man-made peninsula on Toronto's waterfront which extends 5 km into Lake Ontario. The spit was developed in the 1950's by the Toronto Port Authority for the purpose of expanding port facilities in anticipation of increased shipping activities in the Great Lakes. Since then a combination of lake-filling and dredging activities created the current configuration of the park. TTP now has a land base of approximately 160 hectares and a water surface area of 100 hectares, composed of the western embayments and the inner disposal cells.

Through natural succession and habitat restoration most of TTP has been colonized by a variety of plant and animal communities. The geographic situation of the park and its natural features make it very suitable for large numbers of breeding and migrating birds. Overall, the park represents the largest area of existing natural habitat on the Toronto waterfront. Tommy Thompson Park is classified as an Environmentally Significant Area and was designated as an Important Bird Area (IBA) by Birdlife International in 2000.

The site selected for Migration Monitoring is located on peninsula D, which is one of several peninsulas that branch off the main spine of the spit. The peninsula is bordered by the Toronto harbour on the north side and an inner bay on the south side. The habitat is composed of early succession cottonwood, willow, dogwood, and birch forest. Beach and meadow features are also present in the study area. Please refer to Appendix A for a detailed map of the study area.

Toronto and Region Conservation (TRCA)

Toronto and Region Conservation (TRCA) was formed in 1957 for the management and conservation of natural resources in the Greater Toronto Area (GTA). Since its formation TRCA has prepared and delivered programs for the management of the renewable natural resources within its watersheds.

Migration Monitoring Program

Rationale

Migration Monitoring is an effective method for monitoring populations of migratory birds through the standardized capture and counting of migrants. This protocol is particularly useful for monitoring species which breed and winter in areas too remote and inaccessible to survey.

There are approximately 25 Migration Monitoring stations throughout Canada which are coordinated by the Canadian Migration Monitoring Network (CMMN). The data collected by member stations can be analyzed to detect population trends at the local, regional and national scales.

Methods

Migration Monitoring operates on a daily basis from April 1 - June 9 and August 5-November 9. The protocol employs fixed effort census a fully standardized capture regimen. The protocol for data collection at TTPBRS is detailed in the TTPBRS Migration Monitoring Protocol.

Spring 2014 Migration Summary

Spring migration monitoring commenced on April 1 and ran until June 8th for a total of 65 days of coverage. 176 species were detected within the study area. Diversity peaked on May with 77 species detected, compared to a low of 18 species on April 1.

Table 1. Spring Coverage and Results

Unit	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
Days with coverage	67	65	68	69	65	68	68	67	64	67	69
Total Species Detected	171	176	162	168	152	164	188	178	179	173	161
Birds Banded	*3189	*3008	*2722	1172	1399	1530	1893	2638	2570	2547	2519
Birds Recaptured	* 952	*986	*469	521	210	271	361	369	470	468	604
Captured Unbanded	* 114	*110	*32	51	54	34	35	107	54	78	236
Total Captures	*4253	*4104	*3223	1744	1663	1835	2289	3114	3094	3093	3359
Net Hours	*7110.9	6737.5	*4474	2723.3	3227	3321	4790	4595	4687	5492	5317
birds banded/net hour	*.45	*.45	*.57	.43	.43	.46	.39	.57	.54	.46	.47

*included standard and non-standard nets

Banding

171 species were banded during spring 2014. A total of 3189 birds were banded in 7110.9 net hours for an average capture rate of 0.45 birds per net hour. The highest banding total was on May 25 when 140 birds were banded. The least productive day was April 1 with a total of 7 birds banded.

Table 2. Spring Banding Totals

Species	Total	Species	Total	Species	Total
AMGO	**67**	**EAKI**	**23**	**OROR**	6
AMRO	**31**	**EATO**	**2**	**OVEN**	24
AMRE	**103**	**EAPH**	**21**	**PIWA**	1
ATSP	**27**	**EAWP**	**6**	**PHVI**	6
AMWO	**2**	**EWPW**	**1**	**RBGR**	5
BAOR	**6**	**EWCS**	**21**	**RCKI**	54
BANS	**1**	**FISP**	**6**	**REVI**	19
BARS	**1**	**FOSP**	**5**	**RUBL**	1
BCCH	**3**	**GCFL**	**6**	**RBNU**	1
BAWW	**10**	**GCKI**	**141**	**RWBL**	194
BBWA	**8**	**GRSP**	**1**	**RBGU***	25
BLPW	**23**	**GCTH**	**30**	**SAVS**	3
BGGN	**4**	**GRCA**	**83**	**SESA**	**17**
BHCO	**47**	**HERG**	**2**	**SCJU**	**83**
BHVI	**1**	**HETH**	**54**	**SOSP**	**57**
BLBW	**20**	**HOWR**	**9**	**SPSA**	**17**
BTBW	**23**	**INBU**	**6**	**SWSP**	**40**
BTNW	**21**	**KILL**	**2**	**SWTH**	**109**
BLJA	**9**	**LEFL**	**33**	**TRES**	**26**
BRCR	**41**	**LESA**	**15**	**TRFL**	**94**
BRTH	**4**	**LISP**	**43**	**TEWA**	**31**
CAWA	**24**	**MAWA**	**165**	**VEER**	**19**
CMWA	**5**	**MALL**	**4**	**WAVI**	**18**
CEDW	**7**	**MODO**	**1**	**WTSP**	**169**
CHSP	**5**	**MOWA**	**13**	**WIWA**	**72**
CHSW	**1**	**NAWA**	**72**	**WIWR**	**17**
CSWA	**46**	**NOCA**	**3**	**WOTH**	**2**
COGR	**80**	**NOPA**	**23**	**WPWA**	**47**
COHA	**1**	**NSHR**	**1**	**YBFL**	**22**
CONW	**1**	**NOWA**	**27**	**YBSA**	**4**
COYE	**83**	**NRWS**	**4**	**YEWA**	**173**
DOWO	**4**	**OCWA**	**5**	**YSFL**	**13**
				SPECIES	**96**
				TOTAL	**3189**

Recaptures

During spring 2014 there were 986 recaptures, consisting of individuals and 162 multiple encounters (birds recaptured more than once). 95 individuals were repeats (banded at TTPBRS the same season) and 53 were returns (banded at TTPBRS a previous season). All of the returning birds were species that breed at TTPBRS. Please refer to Appendix B for detailed recapture totals for spring 2014. Although our focus is migration

monitoring, the yearly recapture of certain individuals indicates site fidelity, which has positive implications for the habitat quality at TTP.

Highlights

Orchard oriole……..multiple sightings, one banded May 3, 5 banded May 12 .
Connecticut warbler …… one banded May 14 .
Grasshopper sparrow…….one banded May 9 * first banded at TTPBRS
Chimney swift …… one banded June 7 . * first banded at TTPBRS

Fall 2014 Migration Summary

Fall migration monitoring began on August 5 and continued until November 12 with a total of 76 days of coverage. 170 species were detected within the study area. Rain and high winds for the latter weeks of banding, hindered the banding consistency ….

*Includes Standard and Nonstandard banding

Table 3. Fall Coverage and Results

Unit	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003
Days with coverage	86	82	77	98	93	96	97	96	87	91	95	84
Net Hours	*10,220.5	*10,369	*8605	3404	4531	2641	NA	6835	6085	6816	7388	6726
Total Species Detected	170	171	183	163	170	158	127	185	176	180	173	161
Birds Banded	*4068	*4496	*4629	1473	2592	1190	8	3391	4473	4247	3870	3327
Birds Recaptured	*474	*543	*616	226	308	120	0	423	429	560	614	623
Captured Unbanded	*99	* 483	*269	70	86	38	0	125	515	382	429	152
Total Captures	*4641	*5422	*5514	1772	2986	1348	8	3939	5419	5189	4913	4102
Birds banded/net hour	* 0.40	*0.43	*.54	0.43	0.57	0.45	NA	0.50	0.74	0.62	0.52	0.49
Birds captured/net hour	* 0.42	*0.52	*.64	0.52	0.66	0.51	NA	0.58	0.89	0.76	0.66	0.61

Banding

114 species were banded during fall 2014. 4074 birds were banded in 10,220.5 net hours for a capture rate of 0.45 birds per net hour. The most productive day overall was October 11 with 475 birds banded of 22 species. October 12 was the next busiest day, with 412 of 18 species. The least productive day was November 8th, with only 1 bird banded of 1 species.

SPECIES	TOTAL	SPECIES	TOTAL	SPECIES	TOTAL
AMGO	11	EAPH	22	PHVI	10
AMBD	1	EATO	1	RBGR	4
AMPI	12	EAWP	6	RBNU	2
AGWT	1	EWPW	1	RCKI	409
AMRE	53	FISP	2	REVI	30
AMRO	25	FOSP	14	RUBL	3
ATSP	12	GRYE	2	SCJU	87
BAOR	15	GCKI	719	SCTA	1
BANS	1	GCTH	36	SESA	14
BAWW	17	GRCA	47	SEPL	4
BBWA	11	GRYE	1	SOSP	40
BCCH	87	GRHE	2	SPSA	12
BEKI	7	HEGU	25	SSHA	6
BGGN	5	HETH	159	SWSP	18
BHCO	1	HOWR	3	SWTH	113
BHVI	13	KILL	11	TEWA	39
BLBW	3	LEFL	45	TRFL	82
BLJA	6	LESA	35	VEER	11
BLPW	27	LEYE	2	WAVI	131
BRCR	60	LISP	7	WBNU	3
BTBW	34	MALL	9	WCSP	5
BTNW	27	MERL	2	WIWA	41
BUFF	8	MAWA	117	WIWR	30
CAWA	22	MOWA	7	WOTH	1
CEDW	102	MYWA	98	WPWA	57
CHSP	1	NAWA	137	WTSP	193
CMWA	5	NOCA	18	YBFL	45
COGR	1	NOPA	14	YBSA	7
COHA	1	NOWA	28	YPWA	1
COYE	41	NSWO	76	YEWA	98
CSWA	22	OCWA	20	YSFL	12
DOWO	7	OVEN	30	**SPECIES**	**104**
EUST	68	PUFI	12	**TOTAL**	**4074**
EAKI	6	PISI	128		

Highlights

Turkey vulture

Education and Outreach

TTPBRS continues to engage the community through educational programming. Banding demonstrations and interpretive talks were given to over 1200 people at TTPBRS in 2014. This figure includes park visitors, students and special groups.

Volunteerism

Providing educational opportunities for those interested in bird research is a critical role for the research station, as venues for hands-on learning are hard to find. Many of our trainees have gone on to bright futures in the environmental field through experience at TTPBRS.

With only one paid staff person, TTPBRS truly is volunteer-driven. This year 31 volunteers contributed a total of over 2,300 hours to the migration monitoring program! Although some volunteers move on or move away, most of our crew is made up of long-term volunteers who commit to one or more days per week, year after year. 21 of the 31 people who volunteered this year were people returning from previous seasons!

Thank you to all of our committed volunteers who make this program possible!

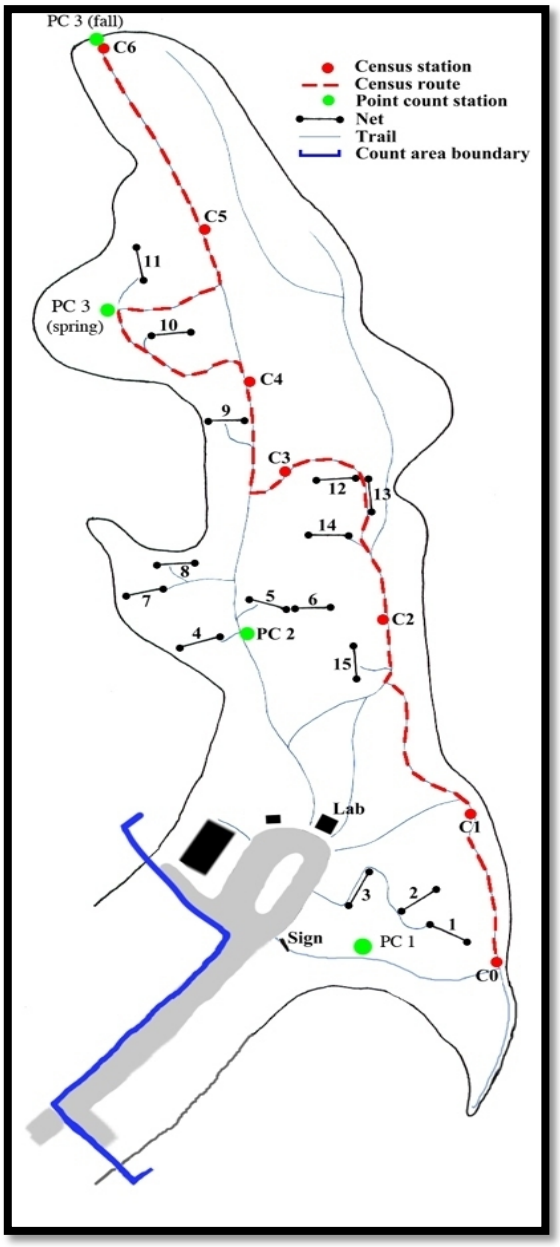
Volunteer	Total Hours
Amanda Guercio	210
Bronwyn Dalziel	752.50
Charlotte England	746.25
Courtney Shaw	207
Denise Potter	136.25
Don Johnston	84
Bruce Wilson	220.25
Rachael Zacharias	162.25
Ian Sturdee	184.25
Linda	143.75
Josh Shook	90.25
Deborah Buehler	59
Jim	143.75
Michelle Goh	18
Maya Ricker-Wilson	78.75
Paul Xamin	614.25
Stephanie Topp	99.25
Tom Flinn	49.5
Kevin Hawkshaw	146.5
Raina Burke	6
Mark Field	7.5
Natalie Barry	10
Sunny	35.5
Tianna Burke	5.5
Miriam	48
Nadine Price	35.5
Lisa Myslicki	69.25
Julia Zarankin	47.75
John Crawford	29
Garth Baker	57
Michele Goh	34
TOTAL HOURS	***2305.5***

Weekly Bird Walks

This year TTPBRS started to offer bird walks each Saturday, led by volunteers Bob Kortright and Tom Flinn. Participants met at the entrance at 8:00 and were guided through the base lands before heading up the road to the research station, where they got to see bird banding demonstrations. The bird walks have been a great way to educate people about the importance of urban greenspace and to further the mission of TTPBRS. Over the course of the spring and fall, 129 participants enjoyed bird walks.

Media

TTPBRS was well featured in local, national and international media in 2014, including CP24 and CTV News. This allowed TTPBRS to expand its reach to the broader public.



Appendix A. Count Area Map

Recent TTPBRS encounters * colour band read, bird still active

Band #	species	Date banded	Location	Date recovered	location
1046-13853 AG29*	Herring gull	May 23/14	TTPBRS	Dec 27/14	TTP
1046-13875 AG57*	Herring gull	Oct 17/14	TTPBRS	Apr 1/15	Sunnyside Pk Toronto
1046-13907 AG03*	Herring gull	Apr 1/14	TTPBRS	Jan 9/15	Rochester, NH, USA
0994-11058 TC12*	Ring-billed gull	Feb 17/14	SS pk Toronto	March 19/14	Grimsby, ON
0994-11067 TC22*	Ring-billed gull	Mar 24/14	Humber Pk TO	Oct 10/14	Cold Springs Harbour NY
0994-11903	Ring-billed gull	June 23/13	TTP	Feb 17/14	Charlotte NC USA
0858-68815 E14*	DC cormorant	June 26/14	TTP	Dec 4/14	Oswego River, NY USA
2206-78105	Long-eared owl	Nov 5/12	TTPBRS	March 17/14	Royalton ctr.Niagara, NY
1927-76494	Am. black duck	Oct 18/14	TTPBRS	Dec 28/14	Charleston, WV USA
1597-71217	Mallard	Feb 3/14	SS Pk Toronto	Nov 11/14	Illinois, USA
1927-76495	Mallard	Oct 9/14	TTPBRS	Dec 26/14	Buckeystown, MD, USA
2291-04533	Hermit thrush	Oct 22/12	TTPBRS	Jan 29/14	Collegedale, TE USA
0924-67456	N. saw-whet owl	Nov 2/13	TTPBRS	Nov 8/13	Ruthen, Cayuga ON

Appendix D. Top Ten Species Banded 2003-2014

Rank	2003	2004	2005	2006	2007	2008	2009	2010	2012	2013	2014
1	GCKI	GCKI	GCKI	GCKI	WTSP	WTSP	GCKI	GCKI	MYWA	GCKI	GCKI
2	WTSP	WTSP	RCKI	RCKI	RCKI	MYWA	WTSP	MYWA	GCKI	RCKI	RCKI
3	RCKI	RCKI	BCCH	WTSP	GCKI	MAWA	RCKI	BCCH	RCKI	WTSP	MYWA
4	HETH	MYWA	WTSP	MYWA	MYWA	RWBL	MYWA	WTSP	WPWA	MYWA	WTSP
5	SWTH	HETH	MYWA	MAWA	HETH	SWTH	SWTH	HETH	SWTH	MAWA	MAWA
6	MYWA	MAWA	SWTH	NAWA	SWTH	SOSP	HETH	SWTH	NAWA	YEWA	YEWA
7	BRCR	SWTH	HETH	SWTH	MAWA	RCKI	YWAR	RCKI	BCCH	RWBL	SWTH
8	SCJU	YWAR	MAWA	HETH	SCJU	YWAR	SCJU	MAWA	HETH	CEDW	HETH
9	NAWA	NAWA	SCJU	SCJU	BRCR	COYE	RWBL	SCJU	MAWA	HETH	NAWA
10	MAWA	TRFL	BRCR	BRCR	NAWA	HETH	SOSP	NAWA	TRFL	SCJU	RWBL